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The effect of parental opportunism, IJV's autonomy and tacit knowledge on IJV instability: A comparison of multi-variate regression and fuzzy-set qualitative comparative analysis☆

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ABSTRACT

This study uses an agency theory perspective to examine how the factors that influence principal (IJV parents) and agent (IJV) relationship may affect IJV instability in China. The study proposes a framework that bridges knowledge-based theory (of tacit knowledge) and agency theory (of parental opportunism) by incorporating reactance theory (of autonomy). By comparing the empirical results of fuzzy-set qualitative comparative analysis (fsQCA) and multiple regression analysis, using a sample of 203 Chinese-foreign IJVs, the study adds further evidence to growing methodological consideration regarding complexity theory. The results from multiple regressions show that parental opportunism and IJV's autonomy have a positive effect on IJV's instability, and that the interaction of autonomy and tacit knowledge moderates the effect of parental opportunism on IJV instability. However, fsQCA uncovers more causal paths than findings from multiple regression analysis.

1. Introduction

The determinants of international joint venture (IJV) instability receive growing attention in the literature (Fang & Zou, 2010; Yan & Zeng, 1999). This study adopts the view of Fang and Zou (2010) and Yan and Zeng (1999) and defines an IJV as a venture that experiences conditions such as contract re-negotiation, changes the relationship between partners, has the potential for unpredictable and premature termination, and which others perceive as having instability. The majority of the research into IJV instability, however, discusses the determinants of instability from a parental perspective (Fang & Zou, 2010; Nakamura, 2005) while ignoring IJV's perspective. This fact represents a notable research gap in IJV instability.

To address this research gap, this study investigates three key factors of IJV instability from an IJV perspective: (1) Agency theory of parental opportunism, that is, the opportunism that arises from a parent (principal) toward an IJV (agent); (2) reactance theory of autonomy, that is, the degree to which an agent can use its capabilities to pursue some goals without consent by other party (Barber & Martin, 1999), and (3) knowledge-based theory of tacit knowledge (TK), that is, the knowledge that one cannot codify and transmit by prescription (Polanyi, 1958). Parents' opportunism toward the IJV is sometimes more harmful for both parents and IJV due to wrong norms and expectations, thus causing distrust and suspicion (Hoenen & Kostova, 2015). According to agency theory (Jensen & Meckling, 1976), and considering the parents as the principal and IJV as the agent, principal opportunism may arise when the principal seeks unilateral gains from the agent (Lado, Dant, & Tekleab, 2008; Yan, Zhu, & Hall, 2002). TK is a key concern in the IJV literature that plays a significant role in IJV instability (Inkpen & Beamish, 1997). Particularly, this study seeks to develop an approach to solve a significant IJV puzzle: How do tacit knowledge, parental opportunism, and autonomy influence IJV instability?

This study chooses China as the research context for the study because China has a more uncertain and unpredictable institutional environment (Burgers & Padgett, 2009; Fang & Zou, 2010), and is the largest FDI recipient (Peng, 2006). The Chinese market provides a unique environment for IJV and an excellent research context to capture the complexity of IJV instability. This research provides new insights on IJV instability in emerging market multinational corporations (MNCs); China offers the perfect scenario to examine the effects of parental opportunism, IJV autonomy, and IJV tacit knowledge's influence on IJV instability.

This study contributes theoretically to the existing literature on IJV instability by integrating the agency-, reactance-, and knowledge-based views to examine the factors that influence a firm's propensity

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to IJV instability in China. In addition, this study contributes methodologically by comparing the empirical results of fuzzy-set qualitative comparative analysis (fsQCA) and multiple regression analysis using a sample of 203 Chinese-foreign IJVs, which adds further evidence to the growing methodological consideration regarding complexity theory. Regarding the contribution on practice, IJV instability in China is a significant and growing economic phenomenon that is of timely concern to managers.

2. Conceptual framework and hypotheses

Several studies examining IJV instability exist. The determinants of IJV instability depend on the interactions and combinations of numerous factors; a single theory cannot explain their existence and behaviors (Calvet, 1981). This study adopts a multi-theoretic view by drawing on elements of agency-, reactance-, and knowledge-based views to formulate a more holistic perspective to examine IJV instability in China (see Fig. 1 for the theoretical framework). Agency theory stresses the role of principal opportunism, which refers to the opportunism that arises from a principal with respect to an agent (Lado et al., 2008), which indicates the inharmonious relationship between parents and IJV. However, knowledge-based view (KBV) theory suggests that a firm can acquire, transfer, and embed context-specific knowledge via inter-firm cooperation (Grant & Baden-Fuller, 1995). Some studies posit that transferring tacit knowledge is a key factor in a cooperative parents' relationship, which may also play a significant role in IJV instability (Inkpen & Beamish, 1997). Indeed, reactance theory focuses on the autonomy in cooperative relationship, which is useful to discuss the relationship between an IJV's autonomy and instability.

This interdisciplinary approach reveals how various categories of factors affect emerging economy's IJV instability.

2.1. Agency theory (of parental opportunism) and IJV instability

Because of divergent interests between principal and agent, inharmonious situations and conflicts often exist (Yan et al., 2002). Agency theory literature suggests that the appearance of principal opportunism is a sign of disharmony between principal (parents) and agent (IJV) inharmonious (Foss, Foss, & Nell, 2012; Yan et al., 2002). This disharmony can affect principal–agent relationship stability. Opportunism may influence the trust between principal and agents, which can frustrate the development and maintenance of value-enhancing relationships (Lado et al., 2008). Under these circumstances, parents may wish to renegotiate their IJV contract, change the equity shares in the IJV, or terminate the contract.

Hypothesis 1. Parental opportunism has a positive impact on IJV instability.

2.2. Knowledge-based theory (of IJV tacit knowledge) and IJV instability

KBV theory literature suggests that TK is a strategic important resource and can be a source of competitive advantage (Kogut & Zander; Teece, 1982). The rarer and more valuable the TK that a firm has, the greater the chances that a firm can become a success (Arend, Patel, & Park, 2014). Because of the nature of the TK–complex and difficult to codify or transfer systematically (Polanyi, 1958; Zander & Kogut, 1995)–once an agent establishes a high level of TK, the agent becomes very powerful and has strategic importance for the principal (Mudambi & Navarra, 2004).

When an IJV has a high level of TK, to not lose the TK, the parents will be less likely to cause instability in the IJV because instability such as unpredicted and premature termination leads the parents to lose the IJV's TK. If termination of the IJV is in the original plan, the parents prepare the transfer of TK to themselves before termination. To not lose TK, the parents avoid the IJV's premature termination before successfully transferring TK.

Hypothesis 2. IJV's tacit knowledge has a negative effect on IJV instability.

2.3. Reactance theory (of IJV autonomy) and IJV instability

In principal–agent relationship, an agent's autonomy influences the relationship because an autonomous agent can be very powerful and reject principal's order (Mudambi & Navarra, 2004). Principal, therefore, cannot ensure the achievement of its goals through the agent. Thus, the principal is likely to re-examine, adjust, modify, and improve the current condition of the agent to ensure the achievement of their goals, which may lead IJV to instability. The above explanation of the relationship between IJV's autonomy and instability draws from reactance theory (Brehm & Brehm, 1981). Reactance theory suggests that, in a cooperative relationship, the degree of autonomy restriction increases the controlled party's (parents) psychological reactance, which results in raising the controlled party's (parents) motivations to withdraw autonomy (Homburg & Prigge, 2014). Therefore, IJV instability occurs.

Hypothesis 3. IJV's autonomy has a positive impact on IJV instability.

2.4. Interaction of autonomy and tacit knowledge moderates the effect of parental opportunism on IJV instability

When an IJV has higher levels of autonomy and tacit knowledge, parents are less likely to let opportunism hurt the IJV. In addition, when an IJV has higher levels of autonomy and tacit knowledge, even though parents may act opportunistically, they are less likely to make

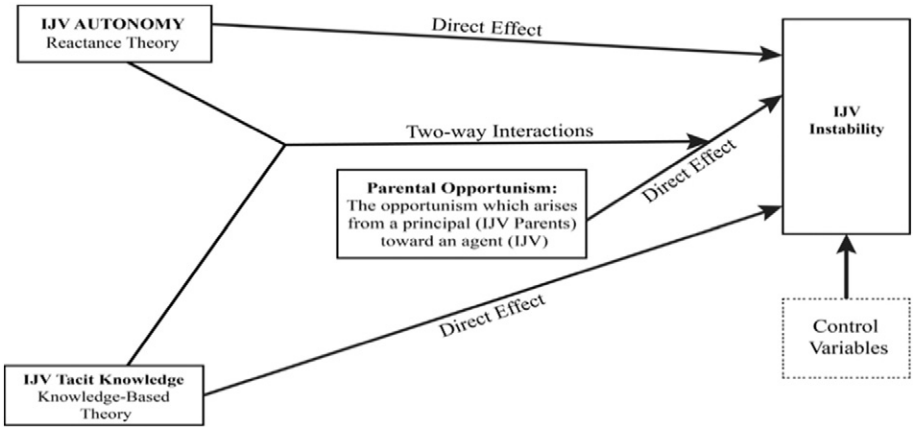

Fig. 1. Theoretical framework for IJV instability.

unpredictable and premature changes to the IJV. Any unpredictable and premature change to the IJV may result in loss of the tacit knowledge of the IJV.

Hypothesis 4. The interaction of autonomy and tacit knowledge moderates the effect of parental opportunism on IJV instability.

3. Method

3.1. Sample and data

China is the host country for this study for the following reasons: In China, legal institutions to support market transactions are not abundant; the institutional environment carries high risks for parents and IJV's business operation (Luo, 2000). Data comes from five areas that share common characteristics: Beijing, Shanghai, Hong Kong, Guang Zhou, and Chongqing (He & Xie, 2006). This study used Shenkar and Zeira's (1987) criteria to select the IJVs. The study created a database of IJVs specifically for this analysis, because no existing sampling framework is available. The database drew from private and public sources: Dun and Bradstreet and ZSHY Investment Advisory, and Qiyetuigang and Waizi Mingluji. The sample comprises of 2099 joint ventures including both JVs and IJVs: 325 were in Hong Kong, 432 in Beijing, 999 in Shanghai, 250 in Guangzhou, and 93 in Chongqing. After excluding the JVs and unqualified IJVs, a total of the sample comprises of 751 qualified IJVs.

The study randomly chose 60 IJVs and sent three questionnaires to each IJV as a pilot study. The full-scale primary data collection method was a mail survey. The study also used intensive follow-up telephone calls at this stage to encourage participation. With 283 responses, the response rate is of 38% (283/751). We followed Hair et al.'s (2006) approach to assess data validity. The study validated 203 IJV cases in the final dataset.

3.2. Common method variance (CMV) and non-response bias

The recommendations of Podsakoff, MacKenzie, Lee, and Podsakoff (2003) applied to control for CMV through the questionnaire design and a statistical remedy. To test the non-response bias, the study used Armstrong and Overton's (1977) recommendations (see Appendix 1 for details).

3.3. Measures

The study draws from the literature and adopts scales for the measurements in this analysis (Appendix 2 lists the items and their references).

3.4. Measurement validity

The study performed confirmatory factor analysis (CFA) to assess the measurement validity.

To calculate the results for CFA, the study used AMOS 21 with maximum likelihood estimation (MLE). At this stage, the study retained 16 items. As Appendix 2 shows, all values for CFA are well above the respective recommended levels (Bagozzi & Baumgartner, 1994; Fornell & Larcker, 1981), thus indicating good measurement validity. The correlation matrix in Table 1 shows the absence of multicollinearity (Emory & Cooper, 1991). Following Fornell and Larcker (1981)'s method, the results indicated that for each construct the average variance extracted (AVE) was much higher than the squared correlation between each pair of the constructs (see Appendix 2), thus supporting the discriminant validity for all constructs. In addition, the study used pattern matrix and found that no issues of cross-loading, further supporting discriminant validity (Hair et al., 2006).

3.5. Data analysis method

The study employs a moderated hierarchical regression technique and the three-way interaction (Handley & Angst, 2014; Hayes, 2013) to assess the model that the study proposes. To analyze causal asymmetric relationships that multiple regression analysis cannot test, the study uses fsQCA. To analyze the data with fsQCA, the study calibrates the variables into fuzzy set membership scores following Wu, Yeh, Huan, and Woodside's (2014) principle of calibration. For a 5-point Likert scale, for example, normally the threshold for full membership is 5 (fuzzy score = .95), 1 as the threshold for full non-membership (fuzzy score = .05), and 3 as the cross-over point (fuzzy score = 0.50). However, the variable IJV instability lean more toward the lower end: the average is 1.91 (Table 2) far lower than the cross-over point of 3. The thresholds for IJV calibration are therefore set as (1 = .05, 3 = .50, 4 = .95, and 5 = 0). In addition, as of the majority of cases their IJV instability is below 3, the analysis should not only explore the occurrence of IJV instability but also the non-occurrence of IJV instability which is particularly suitable to apply fsQCA. For continuous variables such as firm age, firm size, equity share, the calibration process uses percentiles, 50% as the threshold for the cross-over point, 95% and above as the full membership, 5% and below as the full non-membership. The study then apply fsQCA 2.5 software to identify which configurations exhibit high scores in the outcome (Ragin, 2009) and the negation of the outcome. Following Fiss (2011), the study set up 2 as the minimum for frequency and .90 as the cut-off point for consistency. The study further compares the intermediate solution with parsimonious solution to find out the core conditions, peripheral conditions, and necessary conditions.

Table 1
Descriptive statistics and correlation matrix.

	Mean	Std. Deviation	1	2	3	4	5	6	7	8	9
1. Instability	1.924	.643									
2. Opportunism	1.923	.845	.577**								
3.Tacit_Knowledge	2.681	.916	−.070	−.051							
4. Autonomy	2.312	.767	.229**	.135	−.085						
5. Years	13.32	8.165	−.104	−.039	−.051	−.060					
6. Total number of staff in the IJV	2177.75	5915.955	−.032	−.037	.060	−.062	.099				
7. Financial performance	3.63	1.037	−.142*	−.186**	.214**	.053	−.031	−.046			
8. Equity share	18.829	22.072	.079	.090	.164*	.024	.091	−.060	.097		
9. Parents prior cooperation	.389	.482	−.025	.069	−.317**	−.100	.058	−.068	−.087	−.048	
10. Technology industry	.7143	.452	.203**	.085	.181**	.023	−.039	.067	.196**	.011	−.200**

Notes: The asterisk *(**) indicates that the correlation coefficient is significant at the 0.05(0.01) level (two-tailed, Pearson).
N = 203.

Table 2
Results of moderated hierarchical regression.

Variables	Model 1		Model 2		Model 3		Model 4	
	b	*t*-Value	*b*	*t*-Value	*b*	*t*-Value	*b*	*t*-Value
IJV Age	−.107	−1.562	−.077	−1.348	−.074	−1.291	−.079	−1.388
IJV Size	−.039	−.572	−.006	−.114	−.010	−.171	−.019	−.339
Financial performance	−.204***	−2.922	−.083	−1.392	−.080	−1.331	−.084	−1.419
Equity share	.104	1.514	.051	.888	.048	.809	.039	.676
Parents' prior cooperation	.014	.208	−.034	−.556	−.026	−.429	−.035	−.579
Technology industry	.243***	3.445	.174***	2.951	.157**	2.590	.154**	2.574
Autonomy			.145**	2.512	.136**	2.260	.207***	3.146
Parental opportunism			.518***	8.833	.492***	7.221	.454***	6.583
Tacit knowledge			−.068	−1.099	−.055	−.865	−.074	−1.160
Two-way interaction								
1.Autonomy * opportunism					.028	−.371	.198*	1.963
2. Opportunism * tacit knowledge					.012	.191	−.094	−1.257
3.Autonomy * tacit knowledge					.076	1.145	−.026	−.372
Three-way interaction								
4.Autonomy * opportunism * tacit knowledge							.254**	2.487
R square	.071		.369		.366		.383	
Adjusted r square	.099		.398		.404		.423	

*** p-value <0.01.
** p-value <0.05.
* p-value <0.10.

4. Research results

4.1. Findings from multiple regression analysis

Table 3 shows the three causal paths for Model 2. The positive effect of parental opportunism on IJV instability is highly statistically significant. The results for H1 indicate that parental opportunism toward an IJV increases its instability. The effect of an IJV's tacit knowledge on an IJV's instability is insignificant due to the appearance of a standardized coefficients beta and a high p-value, which does not affect IJV instability (H2). The relationship between autonomy (H3) and instability is significantly positive. To test H4, the study uses a three-way interaction technique to conduct hypothesis testing. The results show that none of the two-way interactions in Model 3 are statistically significant.

The three-way interactions in Model 4 are statistically significant. The analysis of the graphs (see Fig. 2) presents the nature of the interaction effect by plotting the relationship between parental opportunism and instability according to the level of the interaction term of tacit knowledge and autonomy (Aiken & West, 1991). The plot shows that the interaction of autonomy and tacit knowledge does not moderate the positive impact of opportunism on instability, thereby not supporting H4 (Table 5 shows the results of hypothesis tests).

4.2. Findings from fsQCA

To detect the existence of causal asymmetric relationships the study calculates the percentile indices of each variable. The research then examines the cross-tabulations of each of the predictor variable with the percentile of IJV instability. A sample cross-tabulation shows that 7 cases exist when IJV instability is high while autonomy is low (see Table 4). However, 16 + 11 = 27 cases exist when autonomy is high and IJV instability is low. In other words, even if the results support H3 (autonomy positively relates to instability) statistically, 7 + 27 = 34 cases exist strongly against H3, accounting for 34/203 = 17% of the overall sample. The case evidence clearly indicates the existence of causal asymmetric relationships.

Table 5 presents results from fsQCA. The fsQCA software provides three types of solutions: A complex solution, an intermediate solution, and a parsimonious solution. Following Cheng, Chang, and Li (2013)'s recommendation, Table 5 provides intermediate solutions. The models use IJV instability and its negation as outcomes respectively, tacit knowledge, autonomy, parental opportunism, and all of the six control variables as predictor variables.

The study achieves 12 solutions (see Table 5): Five solutions for IJV stability as outcome (Model 1), seven solutions for the negation of IJV stability as outcome (Model 2). The overall solution coverage for Model 1 is .43; the solution's consistency is .979 (above the .75 threshold). The overall solution coverage for Model 2 is .42; the solution's consistency is .99. Both models cover a substantive of the outcome membership. These results contrast with the multiple regression results of adjusted R square of less than 40% in for all models (see Table 2). Regarding the solutions in Table 5, Model 1 indicates that the absence of parental prior cooperation is the necessary conditions of IJV stability. Solution 1 suggests that in high-tech industry, joint high scores of firm performance, equity share, autonomy, together with low scores of parental opportunism, parental prior cooperation, tacit knowledge, and firm age, are sufficient condition to predict IJV instability. Model 2 provides seven solutions that predict non-occurrences of IJV instability. Model 2 indicates that the absence of autonomy and absence of parental opportunism are the necessary conditions of non-occurrence of IJV instability. The first solution in Model 2, Solution 6, indicates that irrespective of the industry high scores of parental prior cooperation conjunctures with low scores of all other variables predict the non-occurrence of IJV instability. Solution 7 provides a similar recipe but stresses that in high-tech industry, irrespective of firm age, the same combinations of other variables as in Solution 6 predicts the non-occurrence of IJV instability. Similarly, Table 5 presents nine more recipes, providing a far richer picture than the results from multiple regression analysis. Because of space limitation, the study omits discussion for other models in Table 5.

Table 3
Results of hypothesis testing.

Hypothesis 1 Parental opportunism has a positive impact on IJV instability.	Supported Beta .518*** p = .000
Hypothesis 2 The tacit knowledge which is held by an IJV has a negative effect on IJV instability.	Not Supported Beta −.068 p = .279
Hypothesis 3 IJV's autonomy has a positive impact on IJV instability.	Supported Beta .145** p = .013
Hypothesis 4 The interaction of autonomy and tacit knowledge moderates the effect of parental opportunism on IJV instability	Not Supported Beta .254** p = .014

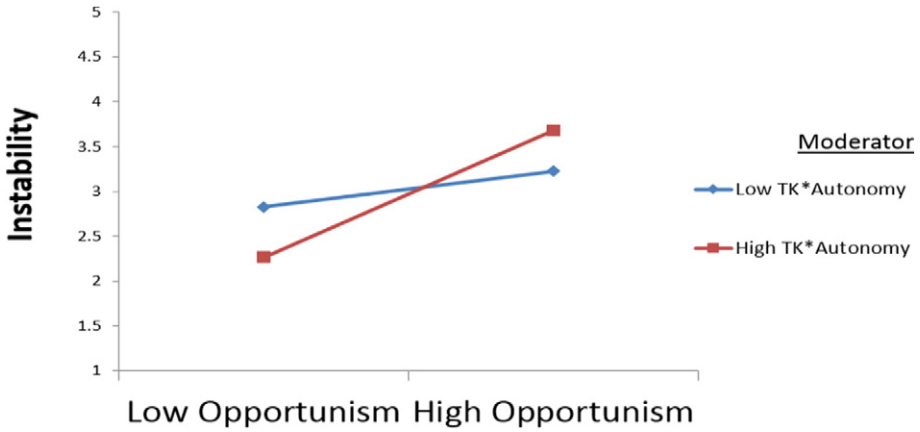

Fig. 2. Interactions of parental opportunism, autonomy and tacit knowledge on instability.

5. Discussion and conclusion

5.1. Discussion of empirical results

Overall, the results for parental opportunism accord with the view that opportunism damages the relationship between two parties, and thus preventing opportunism is necessary (Lumineau & Quélin, 2012). More specifically, the results are line with previous studies of the principal-agent context that postulate that principal opportunism does damage a principal–agent relationship (Foss et al., 2012; Yan et al., 2002). Autonomy is a critical factor in explaining IJV instability, thus, confirming the reactance theory perspective. This perspective posits that autonomy restriction increases the controlled party's (parents) psychological reactance, which leads the controlled party's (parents) to reestablish the forgone autonomy from the controlling party (IJV)(Homburg & Prigge, 2014). This study, however, does not find that TK in an IJV has a direct effect on instability (H2) or that the interaction of TK and autonomy moderates the relationship between parental opportunism and instability (H4). On the contrary, the results indicate that the interaction of TK and autonomy strengthens the positive relationship between parental opportunism and instability. The insignificant result of H2 and the opposite result of H4 may be due to the IJV in China; parents may have joint learning between each other or with the IJV (Fang & Zou, 2010). When joint learning exists, both IJVs and parents can develop tacit knowledge, which may result in the insignificant effect of H2 and the opposite result of H4.

Whilst the hypothesis testing was unable to find individual predictors at play, the results of fsQCA complement statistical analysis by suggesting multi-configurations of different factors which can achieve non-occurrences of IJV instability in addition to the occurrence of IJV instability. The findings demonstrate clearly the importance of the combination of the presence or absence of relevant predictors rather than any single predictor. Therefore the complexity theory is useful in finding out asymmetrical conditions which are unable to manifest in multi-regression analysis.

Table 4
Percentile group of autonomy * percentile group of instability cross tabulation.

			Percentile group of instability			Total
			1	2	5	
Percentile group of autonomy	1	Count	13	11	7	31
		% within percentile group of autonomy	41.9%	35.5%	22.6%	100.0%
	4	Count	11	9	104	124
		% within percentile group of autonomy	8.9%	7.3%	83.9%	100.0%
	5	Count	16	2	30	48
		% within percentile group of autonomy	33.3%	4.2%	62.5%	100.0%
Total		Count	40	22	141	203
		% within percentile group of autonomy	19.7%	10.8%	69.5%	100.0%

5.2. Research contribution

This study incorporates KBV theory, agency theory, and reactance theory into the analytical framework, thus providing deeper understanding of IJV instability in China. First, to our knowledge, this study is the first that uses the principal–agent relationship to study the IJV instability in China. The results demonstrate the usefulness of applying principal–agent perspective that might provide interesting insights into future IJV instability research. Second, the empirical findings add to the growing literature seeking to understand the determinants of IJV instability by conducting symmetrical statistical test via multiple regression analysis and examining the causal asymmetrical relationships via fsQCA. For symmetrical statistical analysis via multiple regressions, the theoretical argument and empirical evidence suggest that IJV instability depends on a combination of three factors and moderate interaction. In addition, this study is one of the few studies in international business that employs a three-way interaction approach to discover the depth relationship between the constructs. The fsQCA technique is able to uncover wider solutions to the IJV instability than the three-way interaction identifies in multiple regression analysis; 12 specific combinations between factors such as firm size, firm age, financial performance, equity, autonomy, tacit knowledge, and parental opportunism lead to the occurrences and non-occurrences of IJV instability. The power of explanation from the results of fsQCA is therefore greater than that of the findings from multiple regressions.

5.3. Managerial implications

First, steering an IJV away from major changes or premature termination are the most important concerns for IJV managers. Overall, the empirical findings suggest that IJV managers should be aware that keeping an IJV away from instability requires a low level of parental opportunism. Second, when granting an IJV a greater level of autonomy, parents should be careful not to lose their control over selecting activities and ways to achieve their goals and satisfy their interests. Third, the fsQCA results indicate that the absence of parental prior cooperation is the necessary condition for IJV instability, whereas the absence of autonomy and the absence of parental opportunism are the necessary conditions that lead to the non-occurrence of IJV stability. Managers can consider three conditions to avoid IJV instability. Finally, the results show that the relationship between IJV instability and its antecedents is not symmetrical. The fsQCA technique is better than conventional multiple regression analysis to address this issue. The results from

Table 5
FsQCA results: IJV instability as outcomes*.

	Model 1: IJV instability as outcomes					Model 2: Negation of IJV stability as outcomes						
	Solutions					Solutions						
Variables	1	2	3	4	5	6	7	8	9	10	11	12
IJV age	⊗	⊗	●	⊗	⊗	⊗		⊗	⊗	●	●	●
IJV size		⊗	●	⊗	●	⊗	⊗	⊗	●	⊗		
Financial performance	●	⊗	⊗	⊗	⊗	⊗	⊗	●	●	●	●	●
Equity share	●	●	⊗	●	⊗	⊗	⊗	⊗	⊗		⊗	●
Parents' prior cooperation	⊗	⊗	⊗	⊗	⊗	●	●	⊗	⊗	●	⊗	⊗
Technology industry	●	●	●	⊗	●		●	●		⊗	●	●
Autonomy	●	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗
Opportunism	⊗	⊗	⊗	●	●	⊗	⊗	⊗	⊗	⊗	⊗	⊗
Tacit knowledge	⊗	●	⊗	●	●	⊗	⊗		⊗	⊗	●	
Raw coverage	.28	.23	.26	.06	.26	.09	.05	.16	.14	.06	.14	.12
Unique coverage	.04	.00	.01	.06	.01	.02	.01	.05	.03	.04	.03	.05
Consistency	.86	.89	.86	.94	.94	.98	.97	.98	1.00	1.00	.99	.99
Overall solution coverage	.43					.42						
Overall solution consistency	.98					.99						

fsQCA indicate that a variety of specific configurations can lead to IJV instability, other than the three-way interaction.

5.4. Limitations and recommendations

This study considers the IJV's view to discover the antecedents of instability. Thus, data comes from top IJV managers. The distinction between an IJV's autonomy and parents' control is ambiguous in the literature. Therefore, obtaining viewpoints from both IJVs and parents is essential to offer a better overview of the relationship between autonomy and instability.

Second, the empirical tests of this study examine parental opportunism toward IJVs in general and do not separate whether the parental opportunism toward an IJV or parental opportunism is a reflection of parental conflict. This is a limitation and future research ought to separate the two types of parental opportunism for empirical testing. Third, although the study uses two different analytical methods to analyze the data, the study does not examine the predictive validity of the results due to the small sample size. Future research may obtain a larger sample and conduct split sample analysis to check predictive validity.

Appendix 1. Common method bias and non-response bias

The questionnaire design and data collection

1) The survey data was collected from three participants, one for independent variables, one for dependent variables, one for organization's background and control variables.
2) The dependent and independent variables are developed from different sources and are different in their notions.
3) Some of the items are deliberately reverse-scored to prevent participants establishing a response pattern.
4) The questionnaire was originally designed in English and then translated into Chinese. Three bilingual professional translators assisted with checking the translation.
5) The questionnaire was reviewed by 15 academics and top business managers for the fust pilot-testing to make sure the questionnaire was clear and easy to understand, with no ambiguities or leading questions.

The statistical remedy

1) We used SPSS 21 to carry out Hannan's single-factor analysis and the results show a 14-factor solution in which the largest factor explained only 19.39% of the variance, indicating CMV did not exist.
2) Structural Equation Modeling (SEM), we drew a signal factor model including all the independent, dependent and control variables items as indicators (Podsakoff et al., 2003).

SEM with maximum likelihood estimation was used to calculate the results and these show that common method variance is absent from our study (CFI. 342, GFI, 521, RMR 404.429, RMSEA. 153).

Non-response bias

1) Non-response bias testing is done by comparing early and late response groups on the assumption that the later response group is more similar to the non-response group (Armstrong & Overton, 1977). The results indicate that there are no significant differences between the early and late groups in terms of industry type, nationality of foreign parents and IJV's age and size.
2) Further, this research randomly selected 50 IJVs that did not respond to this research, to compare industry type, nationality of foreign parents, and IJV's age and size with the responses of the IJVs. The results show no significant differences at the top $p < 0.1$ level.

Appendix 2. Measurements and results for CFA.

Items 5-point Likert scales (1 strongly disagree, 2 disagree, 3 undecided, 4 agree, 5 strongly agree.)	**CFA**
Parental opportunism reference: Lado et al., 2008 CR = 0.936 AVE = 0.785 MSV = 0.349 ASV = 0.122	
Both parents provide overpriced quotations.	.827
Both parents provide substandard input.	.865
Neither parent provides all relevant information in a timely manner.	.964
Both parents exaggerate their requirements for the operation of the IJV.	.892
Both parents provide sufficient resources to develop IJV strategies (reversed-scale).	
Neither parent misrepresents any aspect of their joint business relationship to further their own objectives (reversed-scale).	
Tacit knowledge reference: Zander & Kogut, 1995 CR = 0.895 AVE = 0.685 MSV = 0.009 ASV = 0.004 HSC = 088	
Manuals describing IJV activities and processes can easily be written (reversed-scale).	931
Large parts of IJV processes are captured in standard software that can be modified for needs (reversed-scale).	.932
Extensive documentation describing critical parts of the business processes exists in the IJV (reversed-scale).	.650
New staff can learn systems and procedures by studying documents and manuals in the IJV (reversed-scale).	.776
New staff can learn systems and procedures by talking to skilled employees in the IJV (reversed-scale).	
Autonomy reference: CR = 0.879 AVE = 0.646 MSV = 0.058 ASV = 0.028 HSC = 0.219	
The IJV has the authority to formulate strategic business plans (including subsequent implementation).	.739
The IJV has the consent of the parent firms to formulate and implement strategic business policies only in limited functional areas (such as human resources management).	.780
The IJV has the authority to execute R&D roadmaps without the consent of parent firms.	859
The IJV has the authority to allocate R&D assets without the consent of parent firms.	832
Instability reference: Yan & Zeng, 1999 and Fang & Zou, 2010 CR = 0.926 AVE = 0.759 MSV = 0.349 ASV = 0.136 HSC = 0.553	
To what extent does the IJV have the following conditions which are not in the original plan?	
There are many lawsuits between two parent firms.	.870
Parent firms have planned to sell the IJV to a third party.	.839

(*continued on next page*)

Appendix 2 (*continued*)

Parent firms have planned to terminate the IJV.	.935
The IJV's equity agreement has been changed frequently.	.831
Parent firms plan to sell the IJV to a third party because objectives have changed.	
Parent firms plan to terminate the IJV to redeploy, liquidate or divest assets.	
Sample size = 203; CFA = Confirmatory factor analysis. CR = Composite reliability; AVE = Average variance extracted: MSV = Maximum Shared Variance; ASV = Average Shared Variance. HSC = Highest squared correlation between each pair of the constructs	
Measurement model validity: GFI (goodness of fit index) = 906; CFI (comparative fit index) = 965; RMR (root mean square residual) = .042; CMIN/DF (Chi-squared Degrees of Freedom) = l.890; RMSEA (Root Mean Squire Error of Approximation) = .066; TLI (Tucker Lewis Index) = .957	
Control variables	
IJV Age: The number of years the IJV has been in operation	
IJV Size: The total number of employees in the IJV.	
Financial performance: Degree to which the international joint venture firm has been financially successful.	
Equity share: Consistent with Steensma and Lyles (2000), equity share is operationalized by the absolute difference in equity shares between the foreign parent and the local parent.	
Parents' prior cooperation: Coding; 1. Local and foreign parents cooperated prior to establishing the IJV.	
2. Local and foreign parents did not cooperate prior to establishing the IJV	
Technology industry: Dummy variable: 1 for the classification of industries based on higher technology intensity, high-technology and medium-high-technology industries (e.g. computing equipment, motor vehicles, and electrical machines), 0 for the classification of industries based on lower technology intensity, medium-low-technology industries and low-technology industries (e.g. metal products, food, beverages & tobacco). The definition of high technology intensity is based on that used by the OECD (1996). The sectors that are covered by the OECD definition and the UK 1992 SIC codes.	

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